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Toxic Substances
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NTC SAN DIEGO
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REVIEW OF DRAFT REPORT ON THE SITE ASSESSMENT FOR THE
STEAM TUNNEL (POI 38) AT NAVAL TRAINING CENTER, SAN DIEGO

Dear Mr. Forman:

The Regional Water Quality Control Board, and the Department of Toxic Substances Control, collectively known as the State, have reviewed the draft Site Assessment Report for POI 38 - Steam Tunnels. Based on our review, the State offers the following comments.

1. Page 2-2, Section 2.1.4, 1st paragraph

Please revise the last sentence of this paragraph for clarity. Please also define the "target depth" selection as mentioned in the 2nd paragraph. The bore hole logs with estimation of ground water depth should be provided in the report for evaluation.

2. Page 2-12, Section 2.2

For continuity between the Phase I site assessment report and the Phase II report, please include the rationale behind choosing the metals of concern for analysis at each specific sampling location.

3. Page 2-13, Section 2.3, 2nd paragraph of page

Please provide additional details on sample handling methods as well as duplicate collection method. For the duplicate collection method, the discussion should state whether the extra volume was pulled at one time, or as a separate collection. If the extra volume was pulled at one time, how were the split samples made? The report should also include field notes, i.e. sampling time, temperature, and visual observation of samples, such as color and turbidity.



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4. Page 2-14, Section 2.5, last paragraph

Please note that for proper waste classification for transportation and disposal during the removal action, NTC must also classify the waste as either federally regulated or California only.

5. Page 2-13, Section 2.5, Data Evaluation, Decision Rules

The logic behind the decision rules as stated in this report is flawed. Bullet 2 specified that if the results of both the localized non-tunnel/ vault sample concentration and the sample concentration adjacent to the steam tunnels are above the project specified action level (PSAL), then no further action will be recommended. This statement does not take into account that the results of the tunnel/ vault samples are higher than the localized non-tunnel/ vault sample results. In such case, it cannot be determined whether the high concentration at the non-tunnel section is due to "background", other source of contamination, or influenced by an unknown up gradient steam tunnel source. Comparison of relative concentration is important to determine subsequent action. Therefore, it is important to have good reproducible data.

6. Page 3-1, Section 3.1, Table 3-1

Although the Phase II site assessment was conducted according to pre-agreed "data quality objectives", the summary of analytical results are alarming. Based on Table 3-1, all groundwater samples collected during this phase of the site assessment are above the pre-agreed PSAL for copper, and two out of ten samples exceeded the PSAL for lead. When these results are compared to the ground water monitoring results for Site 1, it shows a significant disparity for concentrations of copper and lead. To gain proper perspective, Steam Tunnel Area 5 is the closest to Site 1. The ground water monitoring results for site 1 reported copper concentration of less than 50 ppb, and less than 5 ppb for lead. However, in this Phase II report, the average concentrations for Area 5 are 614 ppb for copper and 148 ppb for lead. With these results, it is questionable whether the "localized non-tunnel/ vault" sampling locations are properly chosen. If the reported concentrations are accurate, it may be necessary to gather additional "non-tunnel" samples

upgradient and outside of the entire footprint of the steam tunnels at NTC.

Aside from questionable concentration, the precision of the results can also be challenged. This is illustrated by the field duplicate samples (1HP-1 and 3HP-1). Of the two field duplicate samples, the results of both duplicates sample show a difference of approximately 300% for copper and lead. This large difference can only be attributed to poor sampling technique or poor laboratory analysis. The concentration difference between two samples collected at the same location at the same time should be smaller.

7. Page 3-8, Table 3-2

This table is confusing. The results for Total Metals should be separated from the results of the WET test. It is difficult to identify the applicable regulatory limits if the results from different analysis are placed together without proper identification.

8 Page 3-13, Section 3.3.1.1, Rinsate Samples

Please review the references within this report, the analytical results for rinsate sample 114RB01 is not included Appendix B, it is in Appendix A. The page labeled Appendix B is found immediately after Appendix A - Chain of Custody Records. However, Appendix B as labeled is not SDG-K9604658, instead it is SDG-K9604244.

9. Page 3-13, Section 3.3.1.2, Duplicates

Since only two field duplicates were submitted for analysis and both were outside the control limits, statistically this translates to a 100% failure in precision. It is therefore questionable whether any of the data is usable. (see comment 6 above).

10. Page 4-1, Section 4.1

The State currently disagrees with the conclusion that the steam distribution system is not impacting the surrounding groundwater and that no further action is necessary. Based on the variability of the reported groundwater data, and the seemingly high concentrations of copper and lead found, we believe the conclusion

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of "no further action" is premature and unsubstantiated. NTC should reevaluate the sample collection methods, the laboratory analysis and the data set to verify that the concentrations reported are representative of the localized concentration in the ground water.

The State recommends that NTC compare the analytical results from this Phase II report with other groundwater data accumulated within the base for elevated levels of copper and lead. If the result in this report is significantly above the concentration measured at other location or event, NTC should rerun several random samples to verify the laboratory analysis. If the result does not indicate a lab analysis flaw, NTC should consider collecting additional non-tunnel samples upgradient and away from all NTC steam distribution tunnels to establish additional background level for comparison of results. If the Navy believes that a background concentration can not be achieved due to the hydraulic fill at NTC, a fill location map and soil analysis data to identify and justify the variability of metal concentrations in the fill soil should be provided.

If NTC can demonstrate that the data as provided is accurate and reproducible, and NTC can further demonstrate that the concentrations of the vault/ tunnel samples are within the same magnitude as the background samples, the State, at that time, will reconsider whether additional action is necessary. Please note that if the concentrations of metals in groundwater are truly above the PSAL, NTC should consider additional study of the groundwater.

If you have any questions regarding this letter, please feel free to contact me at (310) 590-4897.

Sincerely,



Aaron Yue
EAR Specialist/ Interim RPM
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cc: See Next Page.

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